

CLAIMS

What is claimed is:

- 5 1. A method for communication between a host computer and at least one mobile computer terminal, wherein the at least one mobile computer terminal operates at a remote site, has selectable operating characteristics, and is connected to the host computer through a wireless communications network, and wherein the host computer executes an application program in which data is entered from the at least one mobile computer terminal and processed by the application program, the method comprising the steps of:
- 10 configuring the operating characteristics of the mobile computer terminal to correspond to data field characteristics required by the application program running on the host computer;
- 15 utilizing the at least one mobile computer terminal to automatically acquire data at the remote site in response to a data acquisition program running on the at least one mobile computer terminal;
- transforming the acquired data into a data structure in the mobile computer terminal in accordance with said data field characteristics required by the application program running on the host computer; and
- 20 transferring said data structure to the host computer over the wireless communications network.
2. The method of claim 1, wherein said configuring step includes the step of
- 25 receiving information about the data field characteristics required by the application program running on the host computer from the host computer over the wireless communications network.

3. The method of claim 1, wherein said configuring step includes the step of configuring the operating characteristics to accept bar code symbol information.

4. The method of claim 3, wherein said bar code symbol information is received from a bar code symbol scanner attached to the at least one mobile computer terminal.

5. The method of claim 1, wherein said configuring step includes the step of configuring the operating characteristics to accept alphanumeric information.

6. The method of claim 5, wherein said alphanumeric information is received from a keyboard attached to the at least one mobile computer terminal.

7. The method of claim 1, wherein said at least one mobile computer terminal is a wireless IP phone.

8. The method of claim 1, wherein said at least one mobile computer terminal contains a display for showing the current time.

9. A method for communication between a host computer and at least one mobile computer terminal, wherein the at least one mobile computer terminal operates at a remote site, has selectable operating characteristics, and is connected to the host computer through a wireless communications network, and wherein the host computer executes an application program in which data is entered from the at least one mobile computer terminal and processed by the application program, the method comprising the steps of:

configuring the operating characteristics of the mobile computer terminal to

correspond to data field characteristics required by the application program running on the host computer;

utilizing the at least one mobile computer terminal to automatically acquire data from bar code symbols at the remote site in response to a data acquisition program

5 running on the at least one mobile computer terminal;

transforming the acquired data into a data structure in the mobile computer terminal in accordance with said data field characteristics required by the application program running on the host computer; and

10 transferring said data structure to the host computer over a wireless communications network.

10. The method of claim 9, wherein said bar code symbols are received from a bar code symbol scanner attached to the at least one mobile computer terminal.

15 11. The method of claim 9, wherein said configuring step includes the step of configuring the operating characteristics to accept alphanumeric information.

12. The method of claim 11, wherein said alphanumeric information is received from a keyboard attached to the at least one mobile computer terminal.

20 13. The method of claim 9, wherein said configuring step includes configuring the operating characteristics of the mobile computer terminal so that it acts as a terminal emulator.

25 14. The method of claim 9, wherein said bar code symbols are PDF417 bar code symbols.

15. The method of claim 14, wherein said configuring step further includes the step of sending information on the mode the mobile computer terminal should be in from the host computer to the mobile computer terminal.

5 16. The method of claim 15, wherein said sending step includes the steps of:
sending a "0" if the mode should be disabled PDF417 scanning;
sending a "1" if the mode should be contiguous mode only;
sending a "2" if the mode should be large mode only; and
sending a "3" if the mode should be separator mode only.

10 17. The method of claim 9, wherein said configuring step further includes the step of sending a signal from the mobile computer terminal to the host computer indicating that the mobile computer terminal is ready to begin scanning when the information regarding the mode of the mobile computer terminal is received and implemented by the mobile
15 computer terminal.

18. The method of claim 9, wherein said at least one mobile computer terminal includes a display for showing the current time.

20 19. A method for communication between a host computer and at least one mobile computer terminal, wherein the at least one mobile computer terminal operates at a remote site, executes an application program for data collection, and is connected to the host computer through a wireless communications network, wherein the host computer executes an application program to update a database, the method comprising the steps
25 of:

establishing communications and association between a first of the at least one mobile computer terminals and a first access point on a local network; and

determining in said first of the at least one mobile computer terminals, that communications between said first of the at least one mobile computer terminals and all other access points have been impeded and switching to batch mode to continue data collection.

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20. The method of claim 19, wherein said batch mode comprises the steps of:
halting the transmission of data from said first of the at least one mobile computer terminals;

10 storing any new data received by said first of the at least one mobile computer terminals as well as information as to its freshness in memory in said first of the at least one mobile computer terminals; and

15 transmitting all of said stored data and information as to its freshness to the host computer when communications and association between said first of the least one mobile computer terminals and any of said access points on said local network. is reestablished.

21. The method of claim 19, further including the step of alerting the user that communications between said first of the at least one mobile computer terminals and all other access points have been impeded.

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22. The method of claim 21, further including the step of giving the user the option of suspending the input of data while communications between said first of the at least one mobile computer terminals and all other access points are impeded.

25 23. A method for communication between a host computer and at least one mobile computer terminal, wherein the at least one mobile computer terminal operates at a remote site, executes an application program for data collection, and is connected to the

host computer through a wireless communications network, wherein the host computer executes an application program to update a database, the method comprising the steps of:

5 establishing communications and association between a first of the at least one mobile computer terminals and a first access point on a local network;

periodically determining if communications between said first of the at least one mobile computer terminals and said first access point has been impeded;

establishing communications and association between said first of the at least one mobile computer terminals and another access point on said local network; and

10 switching to batch mode if no communications and association can be established between said first of the at least one mobile computer terminals and another access point on said local network.

24. The method of claim 23, wherein said batch mode comprises the steps of:

15 halting the transmission of data from said first of the at least one mobile computer terminals;

storing any new data received by said first of the at least one mobile computer terminals as well as information as to its freshness in memory in said first of the at least one mobile computer terminals; and

20 transmitting all of said stored data and information as to its freshness to the host computer when communications and association between said first of the least one mobile computer terminals and any of said access points on said local network. is reestablished.

25 25. The method of claim 23, further including the step of alerting the user that communications between said first of the at least one mobile computer terminals and all other access points have been impeded.

26. The method of claim 25, further including the step of giving the user the option of suspending the input of data while communications between said first of the at least one mobile computer terminals and all other access points are impeded.

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27. A method for communication between a mobile computer terminal and a host computer in a system in which it is necessary for the mobile computer terminal to send a message to the host computer at a particular time, including the steps of:

10 determining the specific time at which the mobile computer terminal must send a message to the host computer;

programming a timer or clock to wake up the mobile computer terminal at said specific time;

entering a sleep mode; and

sending the message at said specific time.

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28. The method of claim 27, wherein said system is a system utilizing the limited leasing of IP addresses and said message is a message begging for more time.

29. The method of claim 28, further including the steps of:

20 determining if the mobile computer is out of range of communications with the host computer; and

displaying a message on the mobile computer indicating to the user that the mobile computer must be brought back into range of communications with the host computer or else said leased IP address may be forfeited.

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30. A keychain having a bar code scanner.

31. The keychain of claim 30, wherein said bar code reader has a hole designed such that the keychain may be passed through the hole, securing the bar code scanner to the keychain.

5 32. A wireless communications network including:

a mobile computer terminal having a first network address and a display screen, said display screen capable to displaying a graphical image in a hypertext language;

10 a base unit having a second network address, wherein said base unit is designed to transmit a message to a network address corresponding to said mobile computer terminal, said message being represented by a graphical image in a hypertext language; and

said mobile computer terminal designed to interpret said message and to automatically display said graphical image on said display.

15 33. A computer network including:

a mobile computer terminal including a portable, multi-technology card scanner;

a transmission medium; and

20 a host computer configured to receive data from said mobile computer terminal over said transmission medium and interpret the data according to specifications regarding the type of card scanned.

34. The computer network of claim 33, wherein said mobile computer terminal further includes a fingerprint scanner.

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A2
Add B3
Add F2